

Title (en)
IMPROVED DISPLACEMENT PUMP

Title (de)
VERBESSERTE VERDRÄNGERPUMPE

Title (fr)
POMPE VOLUMÉTRIQUE AMÉLIORÉE

Publication
EP 3150851 A1 20170405 (EN)

Application
EP 15187889 A 20151001

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Abstract (en)
The present invention refers to exemplary embodiments of a pressure control device, a displacement control arrangement and a pumping arrangement, wherein the displacement control arrangement is part of the pumping arrangement and comprises a control ring, a rear face of a pump unit and the pressure control device. The rear face of the pump unit may belong to any type of pump unit comprising pressure chambers. The pressure control device is provided with a plurality of rotation symmetrically arranged through holes. Respective through hole is defined by a circumferential inner surface, wherein the circumferential inner surface of the through hole is provided with at least one protrusion extending into the through hole such that a midsection of the through hole has a smaller extension in an intended rotational direction than an outer section and an inner section of the through hole. The pressure control device is fixedly arranged to an axial surface of the rear face of a pump unit and the second axial surface of the pressure control device is facing an axial surface of the control ring. The rear face of a pump unit and the pressure control device are rotational symmetrically arranged about a first rotational axis and the control ring, which is provided with at least a first and a second opening formed as semi-circular arcs, and which are separated by a first and a second land, is rotational symmetrically arranged about a second rotational axis, wherein the second rotational axis is radially offset by a distance E in relation to the first rotational axis, and is arranged in parallel to the first rotational axis. Due to the radial offset between the first and second rotational axis, and due to the configuration of the through holes, by changing the displacement of the displacement pump the angular distance, thus the period of time, the through holes are completely blocked by the first and second lands may be varied.

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Citation (search report)

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